PETRULENKO, A.F., tekhnik

Devices preventing manual releasing of the electromagnetic locks of disconnect operating mechanisms. Energetik 6 no.7:30-31 Jl '58. (MIRA 11:10)

(Electric switchgear)

FEDOTOV, I.I., inzh.; GUR'YEV, G.M., inzh.; PETRULENKO, V.Ye., inzh.; KHAZANOVSKIY, P.M., inzh.

Saturation and drying of the windings of asynchronous motors. Vest. elektroprom. 33 no.10:71 O '62. (MIRA 15:9)
(Electric motors, Induction—Drying)

L 64569-65

ACCESSION NR: AP5023481 RM/0012/64/000/006/0993/1001

AUTHOR: Petrulian, Gh. (Major General, Doctor); Oancea, Tr. (Doctor in medical sciences, Doctor emeritus, Colonel, Doctor); Bachman, M. (Lieutenant Colonel, Doctor); Bogdan, Tr. (Lieutenant Colonel, Doctor); Marinescu, I. (Lieutenant Colonel, Doctor); Popescu, P. (Candidate of medical sciences, Lieutenant Colonel, Doctor)

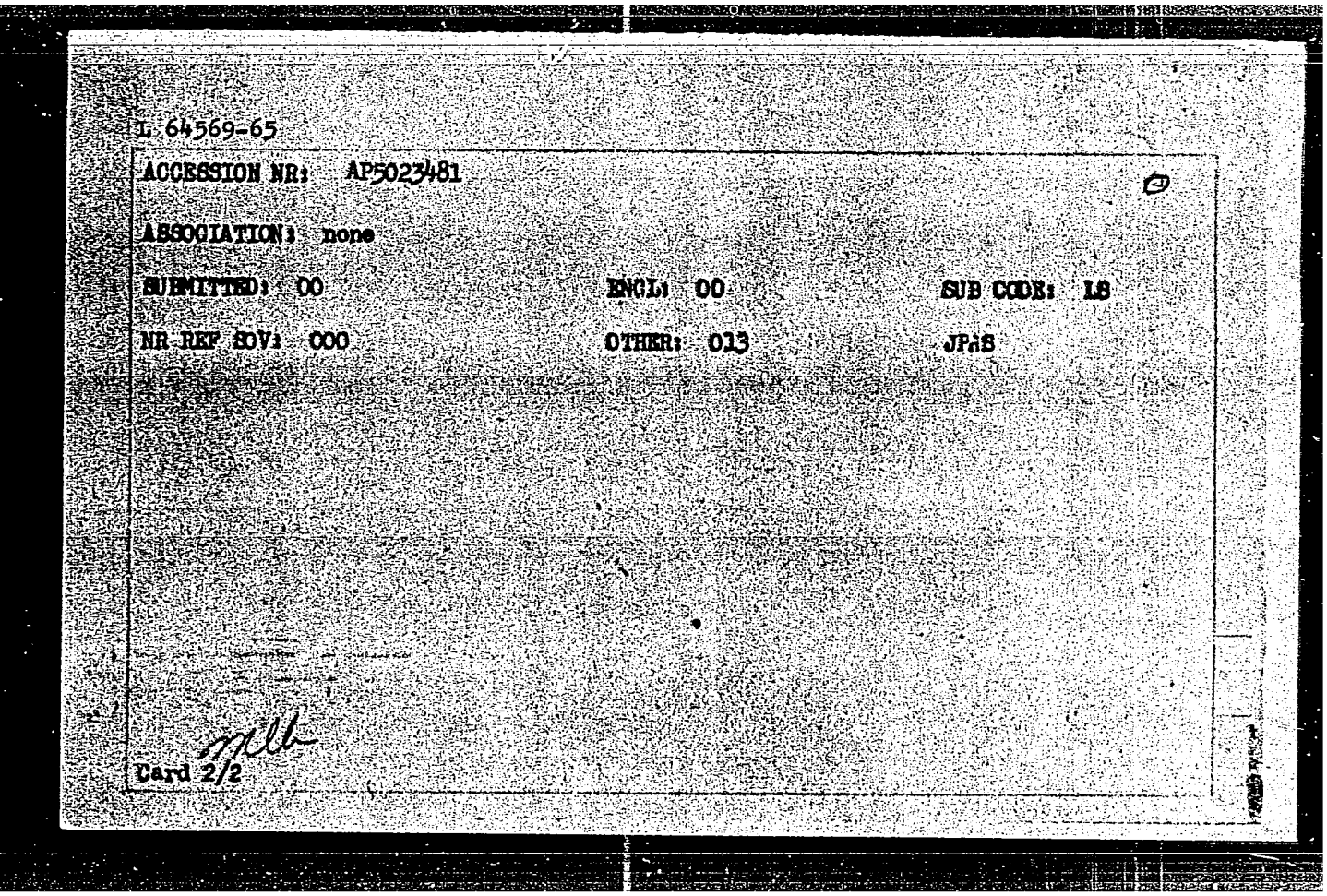
TITLE: Biliary lithiasis, observations based on 150 cases

SOURCE: Revista sanitara militara, no. 6, 1964, 993-1001

TOPIC TAGS: surgery, digestive system disease, internal medicine, digestive system

ABSTRACT: The authors have reached the following conclusions: the only treatment for chronic lithic cholecystitis is cholecystectomy. In regular cases the surgery and postoperative period proceed smoothly; when septic, mechanical and other complications are present the surgery and postoperative period are more difficult. 3. Acute cholecystitis cases, promptly operated had a much better and rapid recovery than those delayed. 4. Antibiotics are not an actual treatment but only an aid in preparing for operation and in postoperative care. 13 references, mainly Rumanian.

Card 1/2



L 64569-65

ACCESSION NR: AP5023481

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: LS	
NR REF SOV: 000	OTHER: 013	JPRS	

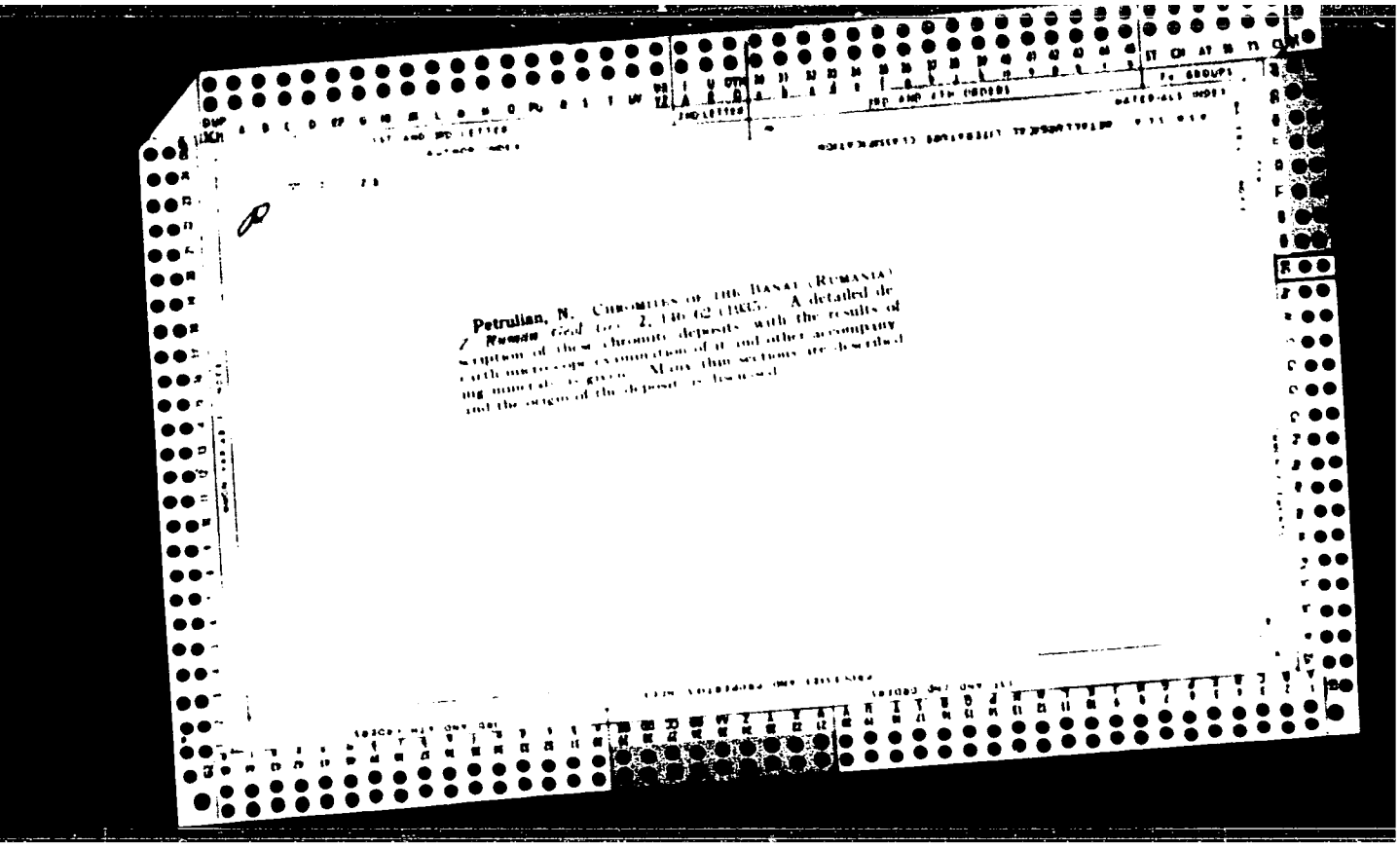
Card 2/2

CA

8

The cobalt ores of the Hogusiet Valley, Baden-Ungaren.
N. Petrulian. *Annuar. inst. geol. Romaniei* 17, 319-29
"1932"(1936).—The following ores, given in the order
of their deposition, have been identified: smaltite, saf-
florite I, Bi, pyrite, chalcopyrite, tetrahedrite, safflorite
II, loellingite. The gang minerals are siderite, calcite and
sporadic quartz. P. S. Roller

METALLURGICAL LITERATURE CLASSIFICATION



The origin of the gold bearing ore deposits of Vârful Negru. Nicolae Petrulian. *Bul.* [illegible] 24, 22 [illegible] 1942; *Chem. Zentr.* 1942, II, [illegible]. Au is assoc. particularly with galena and sphalerite. Other minerals present are pyrite, arsenopyrite, chalcopyrite, tetrahedrite, jamesonite, quartz and calcite.

Michael Fleischer

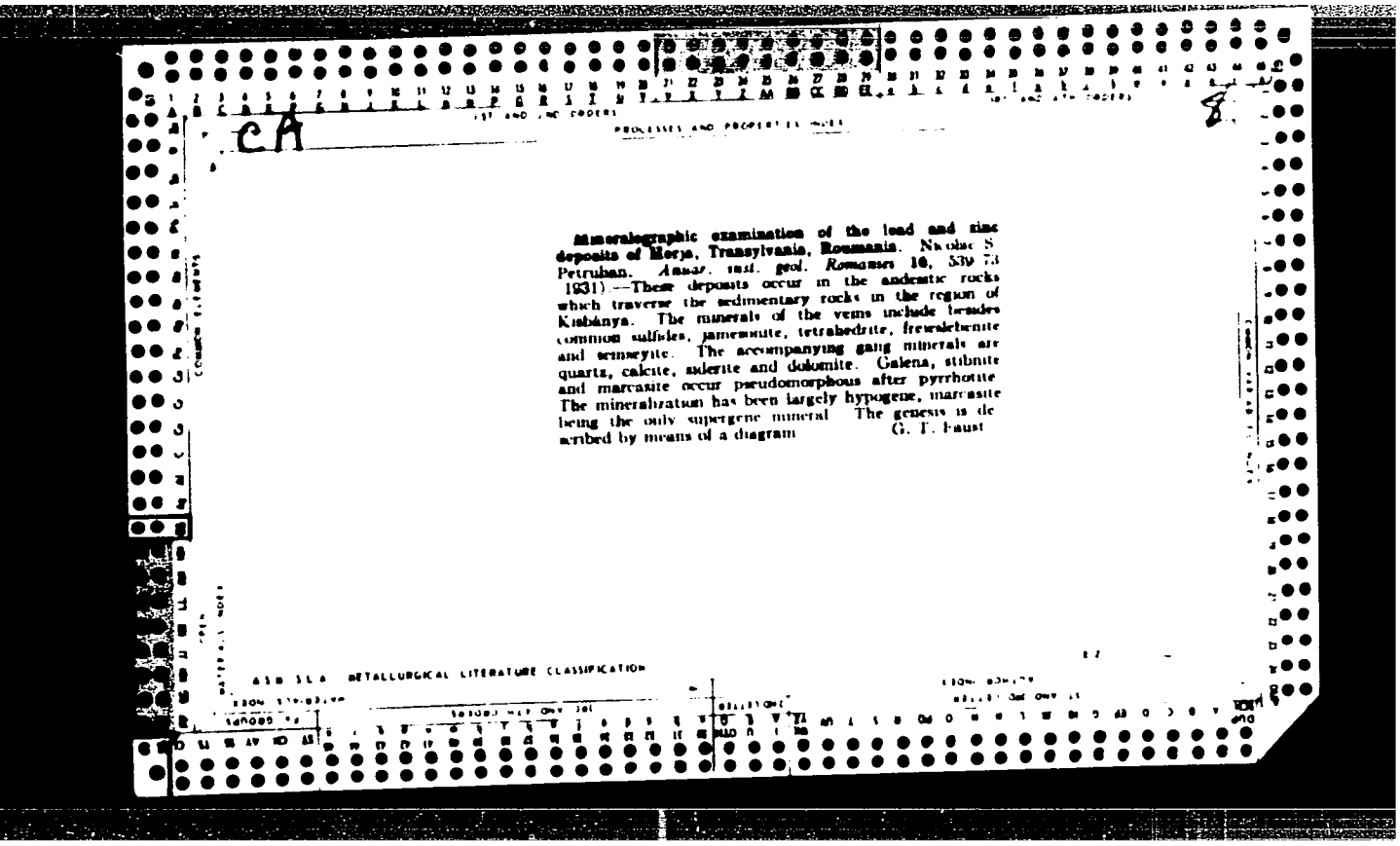
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

2

Mineralographic study of the gold deposit of Mt Rosia, Transylvania, Roumania. Nicolae S Petrulian. *Anuar inst geol. Romaniei* 16, 499 538(1931) Extensive mineralization has taken place in rhyolite and tuff and may even extend to the basement sedimentary rocks. The gang in the rhyolite consists of quartz and rhodochrosite, in the rhyolitic tuff and breccia, of calcite. The Au is found impregnating the gang and assocd. with metallic sulfides, which are worked only for it The vein minerals include alabandite, chalcopyrite of 2 generations, proustite, pearceite, polybasite, etc The deposits are considered to be of epithermal origin and were formed by ascending solns. genetically related to the rhyolites G T F

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Mineralographic examination of the lead and zinc deposits of Merja, Transylvania, Roumania. Nicolae S. Petruban. *Anuar. inst. geol. Romaniei* **16**, 539-73 (1931).—These deposits occur in the andesitic rocks which traverse the sedimentary rocks in the region of Kisbánya. The minerals of the veins include besides common sulfides, jamesonite, tetrahedrite, freieslebenite and semseyite. The accompanying gang minerals are quartz, calcite, siderite and dolomite. Galena, stibnite and marcasite occur pseudomorphous after pyrrhotite. The mineralization has been largely hypogene, marcasite being the only supergene mineral. The genesis is described by means of a diagram. G. T. Faust

PETRULEVICH, N.I.

Rolling Thick Sheet to Closer Tolerances. M. M. Gorenshtein, N. I. Petrulevich, and G. V. Tomashevskaya. (*Stal'*, 1955, 7 (8), 753–755). [In Russian]. Organizational and technical measures are described by which closer control of thickness was obtained in the rolling of steel sheet 4–15 mm thick and up to 1650 mm wide.—S. E.

3

Metal

Zhdanov Metallurgical Inst. + plant im. Il'ich.

RUMANIA / Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour: Ref Zhur-Khim, No 12, 1959, 41928.

Author : Petrulian, N.; Steclaci, L.
Inst : Rumanian Academy.
Title : Nature of Disposition of Nickel in Ultrabasic Serpentinous Rocks in the Sebes Mountains (Southern Carpathians).

Orig Pub: Bul. stiint. Acad. RPR, Sec. geol. si geogr., 1957, 2, No 3-4, 579-603.

Abstract: Serpentinized dunites, hornblendites and other rocks containing 0.16-0.20% Ni were studied by the microscopic method. The following minerals were identified: chromite, ilmenite, primary magnetite, pyrrhotine, pentlandite, chalcopyrite I, valleriite, chalcopyrite II, secondary magnetite, martite, bravoite, chalcosine, covellite and

Card 1/2

PETRULIAN, N.

N. Petrulian

7 The cupriferous mineralization from Musca (the gold-bearing quadrilateral). N. Petrulian and V. Brana. *Comunic. geol. rep. populare Romîne* 2, 725-31(1952).—The presence of enargite is established in the Cu-bearing mineralization of the Western Mountains (Munţi Apuseni) of Romania, in an andesitic eruption. The ore contains quartz, pyrite, enargite, chalcopyrite, tetrahedrite, and chalcocite. The enargite, found in mesothermal rocks, can serve as a geol. thermometer. Since the mineralization at Musca is of epithermal nature, being assocd. with the Tertiary vulcanism of the Au-bearing quadrilateral of the Western Mountains, the presence of enargite is an indication that the temp. of the mineralizing soln. in these zones was higher than the 175° generally accepted for epithermal sites. This view is supported by the absence of the common Pb and Zn sulfides and carbonates. Microscopic studies indicate the following series of succession of minerals: quartz, the 1st mineral deposited, which continues until the end of the mineralization process; pyrite, the most abundant sulfide; enargite, which replaces the previously deposited minerals; chalcopyrite; and chalcocite. F. K.

Geology 2

CERVINSKAS, E., red. toma; BIELIUKAS, K., glav. red.; CHOMSKIS, V., red.; GUDELIS, V., red.; KAUSYLA, K., red.; MARKELYTE, S., red.; PETRULIS, J., red.

[Geographical yearbook]Geografinis metrastis. Vilnius, Lietuvos TSR Geografine draugija. No.4. 1961. 453 p. (MIRA 15:9)
(Lithuania--Geography--Yearbooks)

KAULAKIS, L.; DABUZINSKAS, K.; PUODZIUKYNAS, A.; GUDELIS, L.; BASKYS, V.; PETRULIS, K.; GREBLIKAS, P.; PETRUSEVICIUS, V.; ZUTKUS, A., red.; BANCEVICIUS, P., tekhn. red.

[Electrification of agriculture] Zemes ukio elektrifikavimas. Vilnius, Valstybine politines ir mokslines literaturos leidykla, 1961. 541 p. (MIRA 15:3)
(Lithuania—Electricity in agriculture)

3(4) PHASE I BOOK EXPLOITATION SOV/[illegible]

Lietuvos TSR mokslu akademija. Geologijos ir geografijos institutas

Geografinis metraštis, I (The Geographical Yearbook, [illegible]) Vilnius, 19[illegible] [illegible] p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Lietuvos TSR geografine draugija

Editorial Board: A. Basalykas, K. Bieliukas, Editor-in-Chief (President), V. Chomskis (Vice President), V. Dudelis (Vice President), K. Kaulys, Managing Ed. (Secretary), S. Markelyte, and S. Tarvydas

PURPOSE: This book is intended for geographers and for the general reader interested in the geography of Lithuania.

COVERAGE: The first volume of the Geographical Yearbook presents articles by 22 authors covering aspects of the climatology, geomorphology, geology of the Quaternary, limnology, economic geography, etc. of Lithuania. The publication also includes a section devoted to book reviews and a chronicle of scientific events. Articles appear in Lithuanian with English and Russian resumes. References accompany each article.

AVAILABLE: Library of Congress (QL.G5135)

PETRULIS, L.

PETRULIS, L.

Quaternary deposits of Vilna and its environs.

p. 101. (Mokslinmai Pranesimai) Vol. 4, 1957, Vilnius, Lithuania

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

GRIGOR'YEVA, G.G. [Hryhor'ieva, H.H.], student geol.-geograf.fakul'tet;
PETRUN', F.O., nauchnyy rukovoditel', dots.

Studies on Odessa Province from 1917 to 1957. Pratsi Od. un.
Zbir.stud.rob. 149 no.5:141-143 '59. (MIRA 13:4)

1. Odesskiy gosudarstvennyy universitet.
(Odessa Province)

PETRUN', F.Ye.

New materials, unused in science, on the southern boundary line of forests in the right-bank area of the Ukraine; interfluve between the Southern Bug and The Dnieper. Trudy Od. un. 152. Ser. geol. i geog. [illegible] (MIRA [illegible])

PETRUN, M. M.

Human respiration through the skin. Effect of temperature and physical work in absorption of oxygen through human skin. M. M. Petrun (Ind. Hyg. and Occupational Disease, Kiev). *Doklady Akad. Nauk S.S.S.R.* 111, 228–31 (1956).—In expts. with normal human subjects wearing specially designed pneumatic suits the vol. of O taken in through the skin at 18–20° is found to be 94–220 cc./hr.; with muscular labor this rises to 228–502; with temp. rise to 40° the value rises to 504, while with added phys. work this may be 730, indicating a greater and greater proportion of total respiration being taken over by the skin surface. With rise of temp. of the air the degree of satn. of the blood with O definitely declines. G. M. Kosolapoff

PETRUN', M.M.

Effect of acffeine on the secretion of carbon dioxide through human skin. Fiziol.zhur. [Ukr.] 1 no.2:108-112 Mr-Ap '55. (MLRA 9:9)

1. Kiivs'kiy institut gigiyeni pratsi i profzakhvoryuvan'.
(CAFFEINE--PHYSIOLOGICAL EFFECT)
(CARBON DIOXIDE) (SKIN)

PETRUN', N.M., doktor biolog. nauk

Role of respiration through the skin. Fel'd. i akush. 28 no.8: 37-39 Ag '63 (MIRA 16:12)

1. Iz Kiyevskogo instituta gigiyeny truda i professional'nykh zabolevaniy.

Petrun, M.M.

The effect of caffeine on the elimination of carbonic acid via the skin in man. M. M. Petrun (Inst. Labor Hyg., Kiev). *Fiziol. Zhur., Akad. Nauk Ukr. R.S.R.* 1, No. 2, 109-13(Russian summary, 113)(1955).—The object of the study was to det. the effect of the functional state of the brain cortex on the intensity of CO_2 elimination via the skin. Normal humans were used in the expts. Some were kept in a state of rest; some were performing various types of physical work. Effects upon the brain cortex were produced through the oral administration of caffeine in tea. Controls received tea free from caffeine. CO_2 elimination was detd. by a special procedure. The elimination function of the skin is closely associated with and is under the control of the brain cortex. Caffeine enhances the elimination of CO_2 by the skin in man and the pulmonary gaseous exchange as well. The increase in the CO_2 elimination becomes apparent 30 min. after the caffeine administration and in another 30 min. reaches a 15-20% increase. This is interpreted as an indication of an increase in the oxidation processes and hence in the energy output. B. S. Levine

MD

PETRUN', N.M.

Tissue respiration changes during various stages of heptachlor poisoning in animals. Farm. i toks. 26 no.4:488-494 Jl-Ag'63 (MIRA 17:4)

1. Laboratoriya biokhimii Kiyevskogo instituta gigiyeny truda i professional'nykh zabolevaniy.

PETRUN', N.M., kand.biol.nauk

Respiration of the skin in different CO_2 concentrations of the air.
Vrach.delo no.8:837-838 Ag '58 (MIRA 11:8)

1. Kiyevskiy institut gigiyeny truda i professional'nykh zabolevaniy.
(SKIN)
(CARBON DIOXIDE--PHYSIOLOGICAL EFFECT)

PETRUN', N.M.

Cutaneous respiration in man, as affected by increased concentrations of oxygen, carbon dioxide and nitrogen. Dokl. AN SSSR 118 no.3: 611-613 Ja '58. (MIRA 11:4)

1. Predstavleno akademikom L.A. Orbeli.
(RESPIRATION) (SKIN)

PETRUN N. M.

Inst. ind. Hyg. and Ind. Dis., Kiev. *Respiration through the human skin. Effect of temperature and physical work on excretion of carbon dioxide through human skin. (Russian text) DOKLADY AKAD. NAUK SSSR 1953, 93 (745-748)

It is shown that in the determination of heat production by the human body it is necessary to add to the CO_2, eliminated via the lungs, the amount of about 1.6% at normal conditions or 6.5% at higher temperature (40°) which represents the contribution of the skin as an elimination organ. During active physical work this factor rises to as high as 7.2%. Kosolapoff (Chem. Abstr.) (II, 1?)

SO: EXERPTA MEDICA, Section II Vol. 7 No. 11

PETRUN, N. M.

(2)

The role of skin in elimination of carbon dioxide. N. M. Petrun (Kiev Inst. Ind. Hyg. and Occupational Diseases). *Gigiena i Sanit.* 1954, No. 5, 45.—Increase of temp. from 20° to 40° leads to increased elimination of CO_2 through the skin (from 1.6% to 6.5% calcd. on that eliminated via the lungs), under conditions of phys. rest. With work of moderate intensity a similar change occurs (from 1.6% to 7.2%). G. M. Kosolapoff

PETRUN', N.M.

Cutaneous respiration in man. Effect of temperature and physical work on oxygen absorption through the skin. Dokl.AN SSSR 111 no.1: 228-231 N-D '56. (MLRA 10:2)

1. Kiyevskiy institut gigiyeny truda i profzabolevaniy. Predstavleno akademikom L.A.Orbeli.
(RESPIRATION) (SKIN)

PETRUNI, N.M., kandidat biologicheskikh nauk

Effect of high oxygen concentrations on cutaneous respiration in man. Vrach.delo no.7:735-737 Jl '57. (MLRA 10:8)

1. Kiyevskiy institut gigiyeny truda i professional'nykh zabolevaniy
(RESPIRATION) (OXYGEN)

PETRUN', N.M.

Some peculiar features in the cutaneous respiration of man according to the skin area. Dokl. AN SSSR 114 no.4:904-907 Je '57. (MLRA 10:9)

1. Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i professional'nykh zabolevaniy. Predstavleno akademikom L.A. Orbeli.
(SKIN) (RESPIRATION)

PETRUN', N M

AUTHOR: Petrun', N. M., 20-3-50/59

TITLE: The Influence of Increased Concentrations of Oxygen, Carbon Dioxide and Nitrogen on Human Cutaneous Respiration (Vliyaniye povyshennoy kontsentratsii kisloroda, uglekisloty i azota na dykhaniye cheloveka cherez kozhu)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 3, pp. 611-613 (USSR)

ABSTRACT: This influence was investigated only very insufficiently. The author studied the influence of gas concentration at the chest, the stomach and the thigh (front) of five practically healthy patients. The methodology was especially worked out by the author. The patients were in the state of rest at a temperature of 18° to 20°. The first of the four test series served as a control, the second investigated the influence of O_2, the third that of CO_2, and the fourth that of N_2. Table 1 shows that the skin of all these three parts of the body absorbed O_2 and separates CO_2. The respiration was most intensive at the stomach, weaker at the chest and faintest at the thigh. The amounts of O_2 and CO_2 were about the same. In the second (O_2) test series the concentration of O_2 was 90% to 92%. The O_2 absorption through the skin was

now increased by 43,7 times whilst only 1,38 times more CO_2 was separated. This incidentally applied to all parts of the skin. Analogous cutaneous respiration can be observed when the total surface of the body rests in a high concentration of O_2. A comparison with lung respiration showed an absorption of 29,86% O_2 whilst only 0,5% CO_2 were eleminated through the whole of the skin. So it is possible in this way to increase the supply of O_2 and to raise the efficiency of the organism (references 4,5,13). The supply of O_2 through the skin can also be more effective than the subcutaneous way. The results of the third (CO_2) test series confirmed the statements that the accumulation of CO_2 under theclothing at different temperatures can create different disturbances within the organism (references 1,3,14-17). At concentrations of 80% to 85% CO_2 it is no longer separated through the skin but absorbed. With this oxygen is separated. Such a "reverse" gas exchange was observed with all patients, it was dissimilarly intense at separate parts of the skin. In the forth (N_2) series it was demonstrated that at a 92% to 95% nitrogen concentration O_2 as well as CO_2 are eliminated whilst N_2 is absorbed. This was most intense at the stomach, weakest through

the skin of the thigh. In all cases the quantity of O_2 eliminated was 6 to 7 fold that of CO_2. This difference may be explained by the considerable difference of the partial pressure of these gases in the blood and in the surrounding air. It has often been referred to the nitrogen absorption through the skin, and to its toxic effect, if N_2 is in overpressure (references 6,10, 11). The statements above demonstrate that the process of gas exchange through the skin is diffusionlike and is caused by the partial pressure mentioned above. There is no difference between its mechanism and th t of lung respiration. With the investigated changes of the gas surroundings all topographical peculiarities of the respiration were maintained. All this shows that under unusual conditions the human organism should be protected not only by a gas mask but also by protecting clothes against skin contaminations.There are 1 table, and 19 references, 9 of which are Slavic.

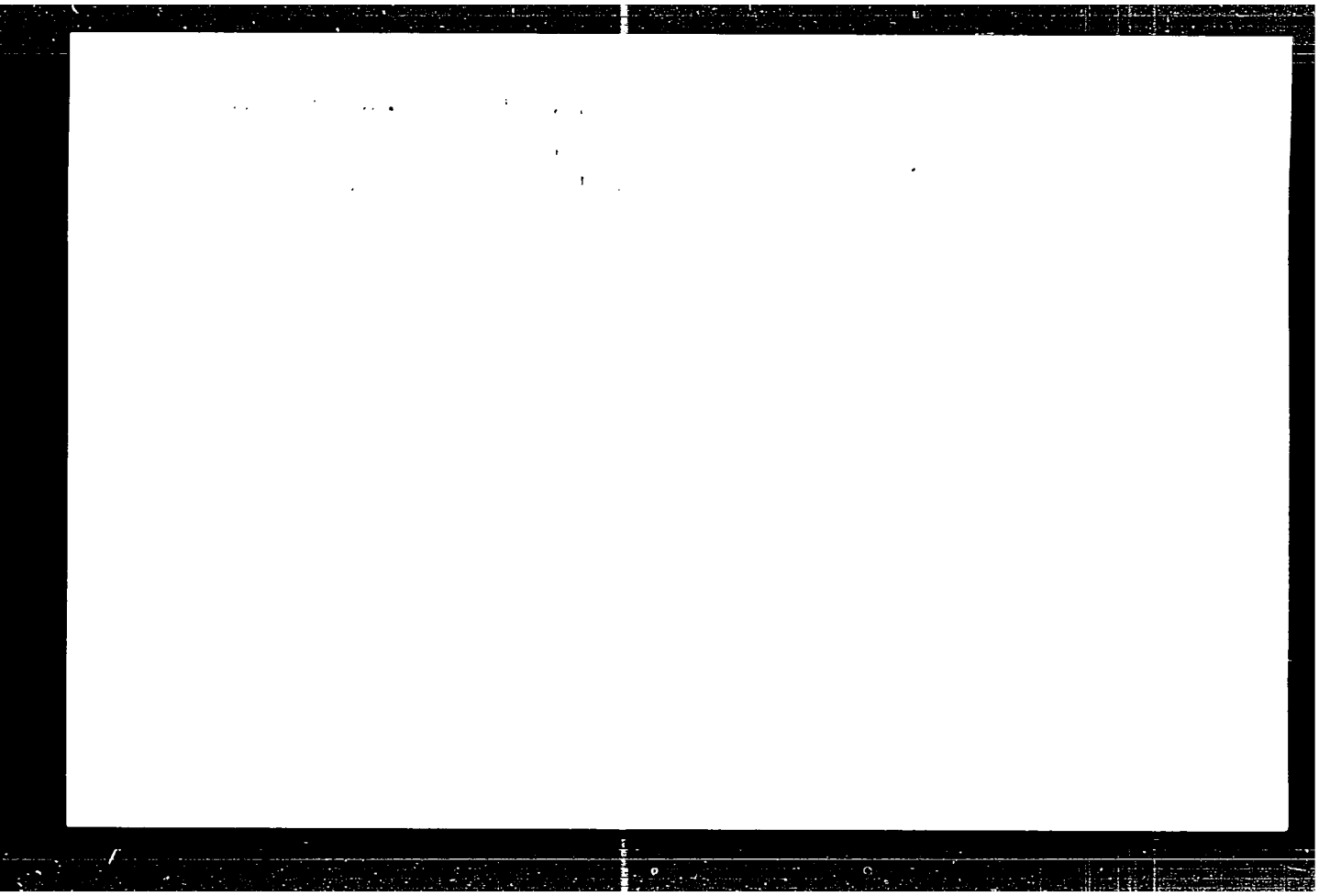
The Influence of Increased Concentrations of Oxygen, Carbon Dioxide and Nitrogen Cutaneous Respiration 20-3-36/59

PRESENTED: September 18, 1957, by L.A. Orbeli, Member of the AN USSR

SUBMITTED: September 17, 1957

AVAILABLE: Library of Congress

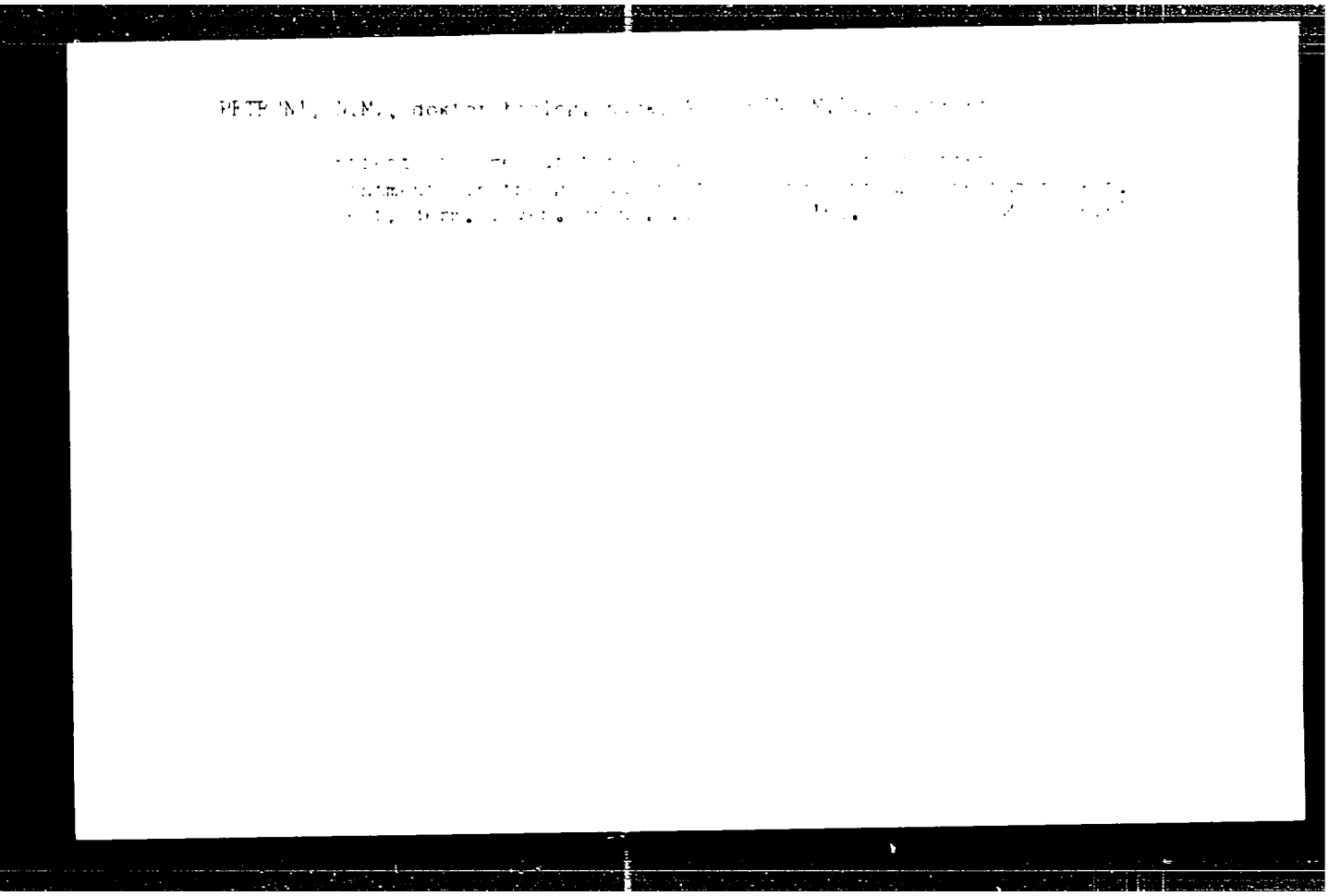
Card 4/4



DOLNITSKY, O.V.; PETRUN, N.M.; SHURINOK, A.R.

Oxygen saturation of skin graft and recipient zone for improving the take. Acta chir. plast. (Praha) 7 no.4: 303-309 '65.

1. Bogomolets Kiev Medical Institute (Director: Prof. V.D. Bratus) and Kiev Scientific Research Institute of Occupational Hygiene and Diseases, Kiev, USSR (Director: Prof. L.I. Medved).



PETRUN', N.M., doktor biologicheskikh nauk

Effect of increased oxygen concentration on the respiratory function. Vrach.delo no.11:101-104 N '62. (MIRA 16:2)

1. Laboratoriya biokhimii Kiyevskogo instituta gigiyeny truda i professional'nykh zabolevaniy.
(OXYGEN—PHYSIOLOGICAL EFFECT) (RESPIRATION)

PETRUN', N.M. (Kiyev)

Effect of barometric pressure on human respiration through various skin areas. Gig. truda i prof. zab. 4 no.3:54-55 Mr '60. (MIRA 15:4)

1. Institut gigiyeny truda i professional'nykh zabolevaniy, Kiyev.
(ATMOSPHERIC PRESSURE--PHYSIOLOGICAL EFFECT) (RESPIRATION)

PETRUN', N.M. [Petrun', M.M.]

Apparatus for determining human respiration through different segments of the skin. Fiziol.zhur. [Ukr.] 5 no.6:837-840 N-D '59. (MIRA 13:4)

(RESPIROMETER) (SKIN)

PETRUN', N.M.

Some features of cutaneous respiration in children of different ages. Fiziol.zhur. 47 no.8:939-941 Ag '61; (MIRA 14:8)

1. From the Biochemical Laboratory, Institute of Occupational Hygiene and Professional Diseases, Kiyev.
(SKIN) (RESPIRATION) (CHILDREN)

PETRUN', N.M.; KORNIYENKO, Z.A.

Transcutaneous respiration in subjects suffering from certain dermatoses. Vest. derm. i ven. 34 no.4:33-36 '60. (MIRA 13:12)
(SKIN--DISEASES) (RESPIRATION)

PETRUN', Nikolay Mikhaylovich; USPENSKIY, V.I., red.; LYUDKOVSKAYA, N.I., tekhn. red.

[Gas exchange through the skin and its importance for the human organism] Gazoobmen cherez kozhu i ego znachenie dlia organizma cheloveka. Moskva, Gos. izd-vo med. lit-ry Medgiz, 1960. 176 p. (MIRA 14:5)
(RESPIRATION) (SKIN)

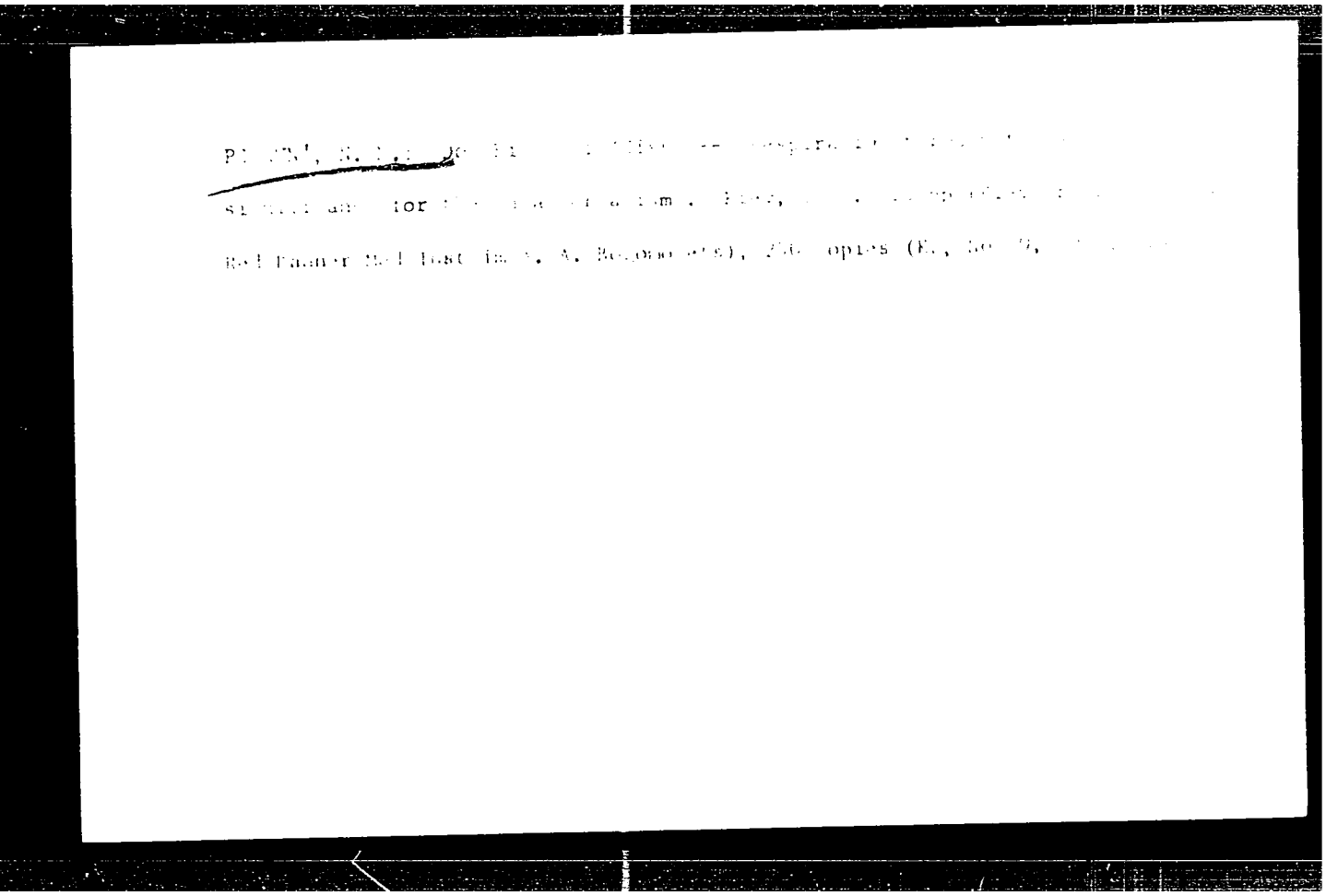
PETRUN', N.M. (Kiyev)

Recent data on cutaneous respiration in man. Usp. sovr. biol. 49 no.3:359-372 My-Je '60. (MIRA 13:7)
(SKIN) (RESPIRATION)

PETRUN, N.M.; KORNIYENKO, Z.A.

Skin respiration in patients with psoriasis. Vrach.delo no.4: 397-399 Ap '60. (MIRA 13:6)

1. Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i professional'nykh zabolevaniy i Kiyevskiy gorodskoy kozhno-venerologicheskiy dispanser.
(PSORIASIS) (RESPIRATION)



AUTHOR: Petrun', N. M. SOV/20-114-4-62/63

TITLE: Some Peculiar Features of Human Respiration Through Various Sections of the Skin (Nekotoryye osobennosti dykhaniya cheloveka cherez razlichnyye uchastki kozhi)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 114, Nr 4, pp. 904 - 907 (USSR)

ABSTRACT: In earlier papers the author (references 7, 8) stated that on the average 174,6 cm^3 O_2 are absorbed and 174,0 cm^3 CO_2 are per hour separated by the human skin in the state of rest. Temperature and the work of muscles influence this process. No published data on the topographical peculiarities of the entire cutaneous respiration were found to exist. From the fragmentary data on this problem may be concluded that the respiration through the individual sections of skin takes a different course. The determination of this problem is of interest from the standpoint of the industrial and agricultural toxicology. For the investigation served 10 (6 men and 4 women) practically healthy persons in the state of rest (lying on their back or stomach) at a temperature of 20 - 25°C. An apparatus was expressly constructed for this purpose (figure 1). The results of the investigation of the intensity of respiration through the

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Some Peculiar Features of Human Respiration Through Various Sections of the Skin

skin and their comparison with data on the pulmonary respiration are given in table 1. The highest gas-exchange (124,65 cm³/hour of absorbed O_2 and 126,52 cm³/hour of separated CO_2, calculated for 1 m² of skin) took place on the abdomen. The intensity decreased in the following order: back, thorax, loins, thigh, forearm and hand, shank and foot. Small variations of the values of the gas-exchange were determined, increases as well as decreases. The women had higher gas-exchange values on the abdomen and thorax than the men, in other places the values were equal in both sexes. Thus the intensity of respiration decreases in the direction towards the periphery, i.e. the extremities. From the given data the cause of the disagreement of the values of O_2 and CO_2 given for the cutaneous respiration by individual authors (references 2, 11-13, 17-19, 21, 22) also becomes clear. They did not take into account the topographical peculiarities of the gas-exchange. The comparison of the respiration through individual sections of the skin with the pulmonary respiration made by the author showed that the cutaneous respiration on abdomen, back and thorax in the state of rest is more intensive than the pulmonary respiration. The cutaneous respiration on the loins is equal to the pulmonary respiration. All other sections of the skin breathe less intensively than

Some Peculiar Features of Human Respiration Through Various Sections of the Skin

the lungs. It was not possible to discover any rules governing the agreement between the number of sweat glands in individual sections of the skin and the intensity of the respiration of these sections. As the sweat glands (according to Kuno, reference 3) may be divided into active and passive ones, the test of Minor was performed. The results showed a dependence of the gas-exchange on the activity of the sweat glands. Besides a complete agreement of the individual peculiarities of the cutaneous respiration of individual sections of the skin with the individual peculiarities of perspiration was determined. The intensity of respiration was also higher in sections of the skin with higher temperature. Based on the different intensity of respiration of individual sections of the skin a different susceptibility of these places toward various gaseous substances may be assumed. There are 1 figure, 1 table, and 23 references, 11 of which are Slavic.

Card 3/4

Some Peculiar Features of Human Respiration Through Various Sections of the Skin SOV/20-114-4-62/63

ASSOCIATION: Scientific Research Institute for Labor Hygiene and Occupational Diseases, Kiyev
(Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i professional'nykh zabolevaniy)

PRESENTED: January 15, 1957, by L. A. Orbeli, Academician

SUBMITTED: December 4, 1956

Card 4/4

PETRUN, V. F.

4

USSR.

Interpretations of the color distribution in vein quartz with rhythmic processes of vein formation. V. F. Petrun [illegible] (Mining Inst., Leningrad). *Zapiski* [illegible] *Obshchestva* [illegible], [illegible] (1954).—The colored quartz veins are observed in the Ulu-Tau Mts. (Central Kazakhstan); milky quartz is colored lilac-violet in the salbands of Devonian clayey sandstones by very fine intergrowths of micropoikilitic rutile or goethite. Spectral analysis showed that Fe and Mn compds. are the most frequent pigments; the clayey sandstone contains 1% Fe and 0.1% Mn, the violet quartz 0.1% Fe and 0.01% Mn, and the milky white vein quartz 0.01% Fe and 0.001% Mn. Similar phenomena have been described by Mügge (*C.A.* 24, 5671). The country rock is often discolored along the salbands, and a direct interrelation is evident between the rhythmic banding of the pigment distribution with the peculiar columnar arrangement of the vein quartz by the tectonic mechanism of the vein formation, which is much more complex than Mügge's expts. have made probable. W. Eitel

PETRUN', V F

KAZITSYN, Yu.V.; PETRUN', V.F.; RUNDKVIST, D.V.

Joint scientific meeting of the Fedorov Institute and the All-Union Mineralogical Society. Zap.Vses.min.ob-va 83 no.4:424-427 '54. (MLRA 8:2)
(Mineralogy)

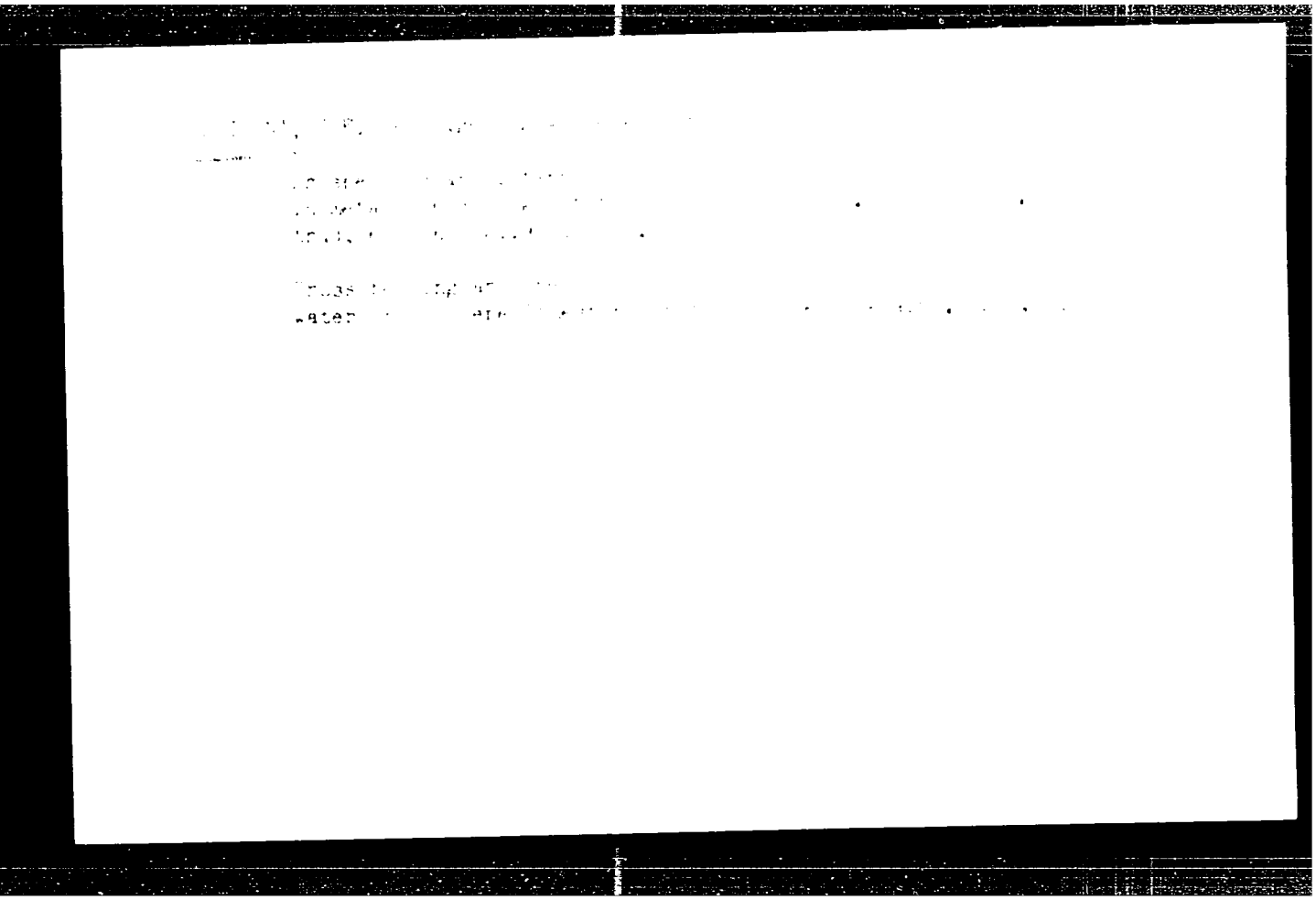
PETRUN, V. F.

4000

The origin of rose quartz in hydrothermal veins. V. F. Petrun (Mining Inst., Leningrad). *Zapiski Vsesoyuz. Mineral. Obshchestva* 84, 191-7(1955).—The general belief (cf. Holden, *C.A.* 15, 1801) that Mn^{++} is the coloring pigment in rose quartz, especially in pegmatitic veins, P. describes occurrences of rose quartz from sulfide-cassiterite ore deposits of the Far East territories, in which no relation at all to Mn minerals is observed. This occurrence is remarkable because of the intimate intergrowths of rose quartz with ordinary colorless gang quartz and even smoky quartz, in a highly dynamometamorphic clastic complex. P. discusses the hypothesis that rose quartz is nothing but a highly metamorphic, clastic amethyst with intense macro- and microfracturing. Beyond these mech. marks, the rose quartz bleaches out rather quickly in sunlight and after being heated to 250° for some min., and then becomes very similar to the colorless quartz type of the veins. The process is irreversible; only under the action of intense x-ray irradiation the initial rose color is intensified to violet-red, amethyst-like colors, while the ordinary pegmatitic rose quartz becomes smoky. Low-temp. hydrothermal but not metamorphic amethyst is also deeper colored by x-ray irradiation. Spectral analysis of 3 samples of the rose quartz from the sulfide-cassiterite veins showed about Al 0.1; Na 0.1; Ti 0.01; Mg 0.01-0.03; Mn 0.001-0.01; Ba 0.001; Fe 0.1-1% (the high Fe content is perhaps from ore contaminations); Ca 0.003-0.01; Cu 0.001%; traces of Zn. Tronimoff (*C.A.* 33, 8301[4]) found in Brazilian amethyst about 0.1% B_2O_3 as a typical constituent; the presence of a few hundredth % B_2O_3 in the rose quarts of the Far East is evidence that it is originated from amethyst. Tourmaline and other B minerals, however, have not been observed in these deposits, although they occur in some neighboring localities. The author emphasizes that his hypothesis cannot include an explanation for the occurrence of rose quartz in veins of New Hampshire, Connecticut, California, and Madagascar; it is on the other hand not permissible to conclude that rose quartz must indicate the presence of Mn minerals in its geol. occurrence. V. Eitel

PETRUN', V.F.

Age of river terraces of the southern Maritime Territory; discovery of stone implements in the coastal region of the Sea of Japan. Mat. VSEGEI no.1:58-73 '56. (MIRA 10:1)
(Maritime Territory--Stone implements) (Maritime Territory--Paleogeography)



APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620013-2"

PETRUN', V.F., kand.geologo-mineral.nauk

Some petrographic features of olivine diabases from the Ingulets River. Sbor. nauch. trud. KGRI no.7:85-95 '59. (MIRA 16:9)
(Ingulets River--Olivine diabase)

PETRUN', V.F., kand. geol.-mineral. nauk, dotsent; BELOKRYS, L.S.

Recrystallization of Pontian limestones of the southern Ukraine. Sbor. nauch. trud. KGRI no.1 [illegible] (MIRA 16:8)

Ukraine--Limestone.

PETRUN', V.F.

Amethyst in the weathering surface of the Yakovlevskoye iron-ore deposit in the Kursk Magnetic Anomaly. Kora vyvetr. no.5:65-67 '63. (MIRA 16:7)

1. Krivorozhskiy gornorudnyy institut.
(Kursk Magnetic Anomaly—Amethysts)

PETRUN', V.F., kand. geol.-mineral. nauk, dotsent

Stratigraphic analogy of Krivoy Rog talc schists to the Yakovlevo deposit in the Kursk Magnetic Anomaly. Sbor. nauch. trud. KGRI no.13:41-47 '62. (MIRA 16:8)

(Kursk Magnetic Anomaly--Geology, Stratigraphic)

PETRUN', V.F.; PIROGOV, B.I.

Formation of karst-suffosion caverns in iron ore rocks of the Krivoy Rog Basin. Izv.vys.ucheb.zav.; geol. i razv. 5 no.5:26-33 My '62. (MIRA 15:6)

1. Krivorozhskiy gornorudnyy institut.
(Krivoy Rog Basin--Caves) (Krivoy Rog Basin--Karst)

BELOKRYS, L.S.; PETRUN', V.F.

Origin of the exotic boulders in the Pontain sediments in the southern Ukraine. Izv. vys. ucheb. zav.; geol. i razv. 4 no.3: 126-128 Mr '61. (MIRA 14:6)

(Ukraine—Boulders)

PETRUN', V. F.

History of the utilization of minerals and rocks for primitive tools from the Stone Age to the Bronze Age (archaeological and mineralogical survey). Mat.z ist.tekh. no.7:88-98 '61. (MIRA 15:2)

(Archaeology)
(Mineralogy)

PETRUN, V.F., kand.geol.-mineral.nauk (Krivoy Rog)

New stone for ornamental objects. Priroda 52 no.3:114-115 '63.
(MIRA 16:4)
(Krovoy Rog Basin—Hornfels)

PETRUN', V.F.; BELOKRYS, L.S.

Archaeological study method recommended to geologists for use in the Crimean Mountains. Trudy Kom.chetv.per. no.26:161-167 '61. (MIRA 15:3)

(Crimean Mountains--Geological surveys)

PETRUN', V.F.

Thin needle-shaped cassiterite from the southern Maritime Territory.
Geol.rud.mestorozh. no.4:95-97 Jl-Ag '61. (MIRA 14:10)

1. Krivorozhskiy gornorudnyy institut.
(Maritime Territory—Cassiterite)

PETRUN', V.P.

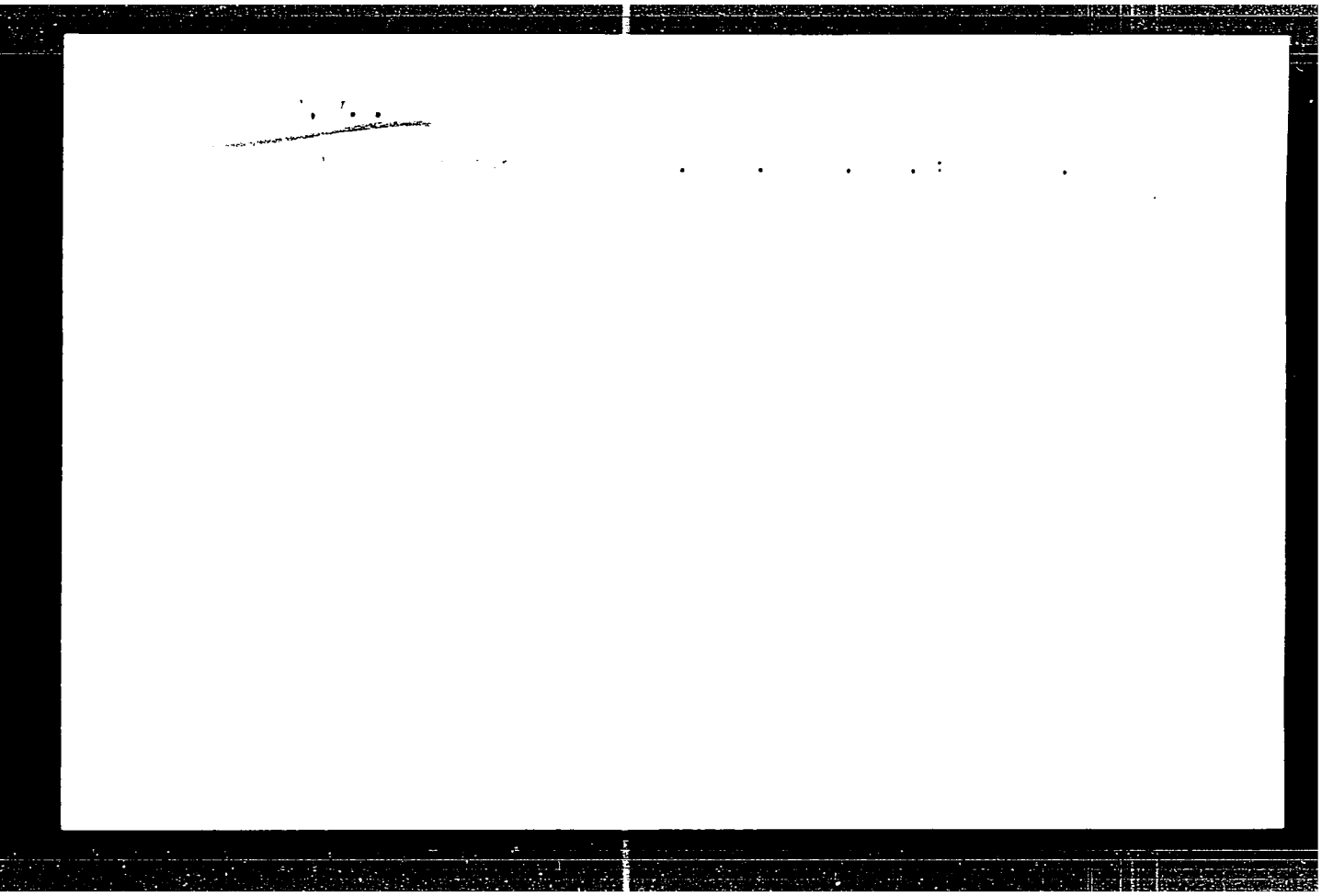
Tiger's eye and griqualandite from the Krivoy Rog Basin. Zap. Vses. min. ob-va 89 no.5:564-570 '60. (MIRA 13:10)

1. Krivorozhskiy gornorudnyy institut.
(Krivoy Rog Basin—Amphibole)

PETRUN', V.F.

Using archaeological data in geological prospecting. Sov. geol. 2 no.9:124-131 S '59. (MIRA 13:2)

1. Krivorozhskiy gornorudnyy institut.
(Prospecting) (Archeology)



APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620013-2"

PETRUN', V.F.

Two types of calcite druses in the Pontian recrystallized limestones of the right bank of the Ingulets River. Zap. Ukr. otd. Min. ob-va [no.1]:132-136 '[illegible]

Efficient replacement of the illuminating device of microscopes for studying ore [illegible] research or student mineragraphic laboratory. Ibid.:162-165 (MIRA 1[illegible]:8)

1. Krivorozhskiy gornorudnyy institut, kafedra mineralogii, petrografii i poleznykh iskopayemykh.

PETRUN', V.F.

Secondary changes, age relation, and mapping separate intrusives in the southern part of the Maritime Territory. Izv. AN SSSR. Ser. geol. 23 no.8:116-121 Ag '58. (MIRA 11:11)

1. Krivorozhskiy gornyy institut.
(Maritime Territory--Rocks, Igneous)

15-1957-3-2806

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 42 (USSR)

AUTHOR: Petrun', V. F.

TITLE: The Problem of the Age of the Stream Terraces in Southern Primor'ye (A Discovery of Stone Implements on the Shore of the Japanese Sea) /K voprosu o vozraste rechnykh terras yuzhnogo Primor'ya (nakhodka kamennykh orudiy na poberezh'ye Yaponskogo morya)/

PERIODICAL: Materialy Vses. n-i. geol. in-ta, 1956, Nr 1, pp 58-73

ABSTRACT: A workshop of apparently ancient stone implements was discovered in a constricted place on the Tadushi River (on the eastern slope of the Sikhote-Alin' Range) below Ustinovka, 30 km from the sea shore. Its traces are found in a soil layer and in diluvial (creep and slope wash) sandy clay 0.5 m thick. This material forms the upper part of a 10 to 12 meter terrace and of the surface and eastern slope of a prominence on which the

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ified tuff and volcanic glass by ancient man was characteristic of Java, Burma, northern Manchuria, and other regions of the Far East. This fact demonstrates the existence of a widely known and well-developed habit of working volcanic material. The time of formation of the 10 to 12 meter terrace is correlated with the Ching-Shui erosion stage (of China). The time of accumulation of the sandy clays on the terrace surface is referred to the Malan stage (Magdalenian?)--the time of settling of the ancient Magdalenians in the upper cave of Shuitungkou in northern China. Consequently, the time of formation of the 10 to 12 meter terrace (the time of accumulation of the alluvium, formation of the prominence, and development of the deluvium) is determined to be middle-upper Pleistocene. The position of the older material on the prominence leads to its correlation with deposits of earlier times at the Verkholenskaya Gora, Osinovka, and Khabarovsk sites.

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L. P. A.

PETRUN', V.F., dotsent, kand.geologo-mineralogicheskikh nauk

Geological significance of the discovery of pseudotachylyte near the Krivoy Rog Basin. Sbor. nauch.trud. KGRI no.20(3):40-44 '63. (MIRA 16:9)

SOV-[illegible]

AUTHOR: Petr[illegible], V.F.

TITLE: Secondary Transformations, Some Age [illegible] Peculiarities of Mapping the Effusive F[illegible] Southern Part of Maritime Province (C[illegible] niyakh, nekotorykh vozrastnykh variantakh [illegible] nostyakh kartirovaniya [illegible] effuzivnykh [illegible] Yuzhnogo Primor'ya)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya G[illegible] Nr 8, pp 1[illegible]-1[illegible] (USSR)

ABSTRACT: This is an answer to [illegible] published by M.A. Fa[illegible] [illegible] /Ref 5, [illegible], 7/ and the article in Nr [illegible] under the title "On Some Secondary Tr[illegible] Effusives [illegible] Southern Part [illegible] the Mari[illegible] describing the effusive [illegible] the Sea of Japan. The [illegible] in that region gave quite different [illegible] the classification of different effusive [illegible] have undergone [illegible] He also reproaches M.A. Favorskaya, [illegible] pare the results of her [illegible] geologists.

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S/Y-[illegible]

Secondary Transformations, S[illegible] App[illegible] in the Mapping the Effusive Formations of the Southern Part [illegible]

There are [illegible] tables and [illegible]

SUBMITTED: January [illegible], 1957

ASSOCIATION: Kriv[illegible] (The Kriv[illegible] [illegible])

1. Geological time--Determination 2. Geology 3. Mapping

Card 1/2

PETRUNEK, D.M., insh.

Experience in the unit assembly of ships' equipment. Sudostroenie 24 no.8:65 Ag '58. (MIRA 11:10)
(Marine engineering)

[illegible], [illegible]; [illegible]; [illegible]K; BELENOV, V.K.

[illegible] [illegible] rail [illegible] potentials. Avtom., [illegible] [illegible]
[illegible] My '64. [illegible]

[illegible] [illegible]tel'skiy institut zheleznodorozh[illegible]
[illegible] Ministerstva putey soobshcheniya (for Petrunenko).
[illegible] [illegible]. stantsii [illegible] Moskovskoy dorogi (for Belenov).

SADIKOV, P.P.; LEBEDEVA, T.P.; KORSH, V.B.; BELENOV, V.K.; PETRUNENKOV, A.Ye.; TISHKOV, L.B.; ASHIKHMIN, A.K., inzh., retsenzent; FREDE, V.Yu., inzh., red.; VOROTNIKOVA, L.F., tekhn.red.

[Technological equipment of railroad stations] Tekhnicheskoe osnashchenie stantsii. Moskva, Transzheldorizdat, 1963. 153 p. (MIRA 16:6)

(Railroads—Stations)
(Railroads—Equipment and supplies)

PETRUNENKOV, A.Ye., inzh.

Efficiency of the electric centralized control of switches in maneuvering areas. Zhel. dor. transp. 47 no.1:30-31 Ja '65.
(MIRA 18:2)

LEBEDEVA, T.P.; STRAKOVSKIY, I.I., TISHKOV, L.B.; LOMAKINA, N.N., ZABELLO, M.L., SADIKOV, P.P.; PETRUNENKOV, A.Ye.; BELENOV, V.K.; ARUTYUNOV, V.A., inzh., retsenzent PETROVA, V.I., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Basic requirements related to the technical equipment of classification yards] Osnovnye trebovaniia k tekhnicheskomu osnashcheniiu sortirovochnykh stantsii. Moskva, Transzheldorizdat, 1963. 218 p. (Its TRUDY, no. [illegible]. (MIRA 17:1)

PETRUNENKOV, A.Ye., inzh. (Chop)

Electromechanical conveying of documents. Zhel. dor. transp. 45 no.3:78-80 Mr '63. (MIRA 16:6)

(Railroads—Communication systems)
(Conveying machinery)

BIBIKOV, D.N.; PETRUNICHEV, N.N. Prinimali uchastiye: DOBROVOL'SKAYA, V.K., nauchnyy sotrudnik; PEKHOVICH, A.I., nauchnyy sotrudnik. SHADRIN, G.S., red.; ZABRODINA, A.A., tekhn.red.

[Difficulties caused by ice at hydroelectric power stations; planning measures for their elimination] Ledovye zatrudneniia na gidrostantsiiakh; proektirovanie meropriiatii po okh ustraneniiu. Leningrad, Gos.energ.izd-vo, 1950. 158 p. (MIRA 12:11)
(Hydroelectric power stations) (Ice on rivers, lakes, etc.)

PETRUNICHEV, N.N., inzh.

New type of testing basins. Izv.VNIIG 48:213-216 '52.
(MIRA 12:5)
(Hydraulic engineering--Research)

PETRUNICHEV, Nikolay Nikolayevich; GIRSHKAN, I.A., red.; FEL'DSHTEYN, B.S., tekhn.red.

[Unsteady flow of water in natural channels] Neustanovivsheesia dvizhenie vody v estestvennykh ruslakh. Moskva, Gos.energ. izd-vo, 1960. 70 p. (MIRA 14:2)
(Hydrodynamics)

PETRUNICHEV, N.N., starshiy nauchnyy sotrudnik, kand.tekhn.nauk

Heat calculations in planning water intake structures on rivers with extremely icy conditions. Izv.VNIIG 63:27-40 '60.
(MIRA 14:5)
(Ice on rivers, lakes, etc.) (Hydraulic structures)

PETRUNICHEV, N.N., kand.tekhn.nauk; PEKHOVICH, A.I., kand.tekhn.nauk;
ZHIDKIKH, V.M., inzh.

Coordination of research work in the field of ice engineering.
Gidr.stroi. 32 no.7:61 Jl '62. (MIRA 15:7)
(Ice on rivers, lakes, etc.)

L 6617-65 EWT(m)/EPF(n)-2/EPR/EWP(k)/EWP(q)/EWP(b) Pf-4/Pa-4/Pu-4 SSD/AFWL/
AEDC(b)/ASD(p)-3/AFETR/ESD(si)/ESD(t) JD/JG

ACCESSION NR: AP4043926 S/0279/64/000/004/0166/0166 76

AUTHOR: Kulagin, I. D. (Moscow); Kudinov, V. V. (Moscow); Petrunichev, V. A. (Moscow)

TITLE: Refractory and active metal powders with globular particles 15

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 4, 1964, 166-166

TOPIC TAGS: metal powder, refractory metal powder, active metal powder, globular particle powder, powder particle size, plasma jet, argon plasma jet, plasma jet atomizing, plasma jet metal atomizer

ABSTRACT: A method for making refractory and active metal powders with globular particles, which are suitable for making porous parts operating under conditions of high temperature, high gas velocities, and in corrosive media is suggested. Equipment was designed on the basis of experiments with tungsten, molybdenum, tantalum, niobium, titanium, and tungsten-hafnium alloys. According to this method a wire is melted and atomized by a plasma jet. Liquid particles blown by the hot jet acquire, under the effect of surface tension, the shape of a globule. This method yields powders which contain 18% of par-

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L 6617-65
ACCESSION NR: AP4043926

tiles of a size 400—315 μ; 41%, 315—250 μ; 30%, 250—160 μ; 10%, 160—63 μ; and 1%, under 63 μ. Density of loose powder is 58% and can be increased to 61—64% by shaking. Chemical composition of globules corresponds to that of the wire used. In processing refractory metal it is possible to obtain globular particles of a size ranging from tenths of a micron to dozens of microns. Under certain conditions it was found possible to produce hollow globular particles. The yield of globular particles in a finished product reaches at least 90%. The purity of powders produced in argon plasma is not inferior to that of the initial metal. Orig. art. has: 1 table.

ASSOCIATION: None

SUBMITTED: 05Mar64 ATD PRESS: 3094 ENCL: 00

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 2/2

KULAGIN, I.D., kand.tekhn.nauk; PETRUNICHEV, V.A., kand.tekhn.nauk; NIKOLAYEV, A.V., inzh.

Investigating cutting by an arc-plasma jet released from an arc column. Svar. proizv. no.5:1-4 My '61. (MIRA 14:4)

1. Institut metallurgii imeni A.A.Baykova AN SSSR.
(Electric metal cutting) (Plasma (Ionized gases))

PETRUNICHEV, V.A., inzh.

Pressure of a high-power arc on the weld bath. Svar. proizv. no. 7:14-17 '58. (MIRA 11:7)

1. Institut metallurgii imeni A.A. Baykova AN SSSR.
(Electric welding)

AUTHOR: Petrunichev, V.A., Engineer

TITLE: Pressure of High Power Arc on the Welding Path (Davleniye dugi bol'shoy moshchnosti na svarochnuyu vannu

PERIODICAL: Avtomaticheskoye proizvodstvo, 1958, Nr 7, pp 14-17 (USSR)

ABSTRACT: The article gives general information on investigations of arc pressure (Ref. 1,2,3,4,5,6,8) and describes experiments carried out for measuring the arc pressure for currents above 600 amp. For this purpose a special device, shown in a diagram, Fig. 1 was designed with the aid of which measurements of open arc and arc under flux were performed. A detailed description of the experiments is given. As a result, it was stated that open arc pressure and the pressure of an arc under flux are almost similar, and that there is only a very slight difference, due to the increase of gas formation from the melting of flux. There is 1 diagram, 2 tables, 4 graphs, and 8 references, 7 of which are Soviet, 1 German and 1 English.

ASSOCIATION: Institut metallurgii imeni A.A.Baykova AN SSSR (Institute of Metallurgy imeni A.A.Baykov, AS USSR)

Card 1/1 1. Electric arcs—Pressure 2. Electric welding—Equipment

33813

1 2300

S/137/62/000/001/092/237
A052/A101

AUTHOR: Petrunichev, V.A.

TITLE: The thermal and mechanical effect of a high-power arc on the welding bath

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 5-6, abstract 1E28 (V sb. "Protsessy plavleniya osnovn. metalla pri svarke", Moscow, AN SSSR, 1960, 117 - 166)

TEXT: The thermal and mechanical action of the arc was investigated in application to the automatic power arc welding under flux, which is characterized by its high ability to deepen into the base metal. The following phenomena were studied: The effect of the arc deepening on the effectiveness of the heating of the base metal, the pressure of the high-power arc on the welding bath, the heat flow of the powerful deepened welding arc under flux, the welding bath, methods of calculating the fusion zone dimensions, the form of the fusion zone outlines. Conclusions: 1) The degree of the high-power arc immersion under flux into the base metal increases with the increase of the current, decrease of the arc voltage and of the electrode wire diameter. 2) With the deepening of the arc the

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The thermal and mechanical effect ...

effective efficiency of the workpiece heating increases considerably; the amount of the heat introduced by a fully deepened arc over the fusion zone width is by 23% higher than at the surface arc welding. 3) The arc deepening is connected with the mechanical action and increases with the arc pressure. The pressure of the high-power arc exceeds by several times the pressure of arcs applied at the manual welding, and is the square function of the current; with the increase of the electrode diameter the arc pressure decreases slightly. 4) The heat flow of the deepened welding arc is distributed non-uniformly over the fusion surface. The maximum heat flow intensity is observed in the centre of the heating spot and decreases towards its edges. The heat flow concentration decreases with the increase of the current, increase of the arc voltage and decrease of the welding speed. 5) The arc deepened in the base metal contributes to the fact that the main part of the heat flow, unlike the surface arc, is applied to the active section of the fusion zone and only a small part to the metal surface beyond the fusion zone limits. 6) The data obtained on the heat flow distribution of the deepened arc enable one to calculate the fusion zone dimensions according to the model of the normal-elliptic source. 7) The calculations by the model of the normal-elliptic heat source with an allowance for the additional heat introduced

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33813

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A052/A101

The thermal and mechanical effect ...

by fused metal can be used for determining the thermal cycle of welding in the next-to-seam zone. There are 28 references.

V. Tarisova

[Abstracter's note: Complete translation.]

Card 3/3

SOV/180-59-2-12/34

AUTHORS: Yerokhin, A.A., and Petrunichev, V.A. (Moscow)

TITLE: Kinetics of the Fusion and Electrode-Metal Transfer Process in Arc Welding (Kinetika protsessa plavleniya i perenosa elektrodnogo metalla pri dugovoy svarke)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 2, pp 70-77 (USSR) (+ 1 plate)

ABSTRACT: In this investigation shadow cine-photography, with a type SKS-1 camera and a Jupiter II teleobjective was used to study the working zone in arc welding. A 3 kW lamp and a condenser were used for illumination, with red and blue-green filters to reduce arc brightness. The photography was carried out by LAFOKI. The active spot in the electrode and the arc flame are shown in Fig 1, while Fig 2 shows secondary effects. That changes occur with time is shown in high speed sequences in Figs 3, 4 and 5, illustrating respectively, the behaviour of a drop on the electrode, of metal being transformed by short-circuiting and of metal being transferred dropwise. The nature of the electrode-wire steel influenced the effects. X-ray photography showed that contrary to the views of V.A. Lapidus, the drops in transfer are not hollow (Fig).

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Kinetics of the Fusion and Electrode-Metal Transfer Process in Arc Welding

Arc length was found to be the main factor governing the form of transfer. The authors go on to discuss, on the basis of heat evolution, the kinetics of drop growth and transfer from electrode to seam. Although they could not determine directly drop weight from their photographs, they were able to deduce the rate of change of drop weight; and this, coupled with indirect determinations of initial drop weight, led to the weight vs time relation (Fig 7, Table 1). This confirmed that the rate of electrode melting decreases with drop growth and showed the irregularity of the whole process. Figs 8 and 9 show the distribution of drops with their time of existence for different currents and voltages, respectively. In their discussion of the effect of the nature of metal transfer on electrode melting they give some results of measurements with electrode vibration (Table 2) and show that this reduces the average drop-life and increase in the melting-coefficient value. Noting the predominating influence of current strength on productivity the authors give results of measurements of the main parameters for

Kinetics of the Fusion and Electrode-Metal Transfer Process in Arc Welding

various welding conditions (Table 3, Fig 10). They discuss the influence of individual factors. There are 10 figures, 3 tables and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Institut Metallurgii AN SSSR (Institute of Metallurgy AS USSR)

SUBMITTED: December 1, 1958

L 54500-65 EWP(e)/EWI(m)/EPF(n)-2/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4/Pu-4
IJP(c) JD/JG
ACCESSION NR: AP5013112 UR/0370/65/000/002/0088/0094
669 : 621.762.001

AUTHOR: Petrunichev, V. A.; Kudinov, V. V.; Kulagin, I. D. 39 8

TITLE: Producing spherical metal powders by vaporizing wire 14

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1965, 88-94

TOPIC TAGS: powder metallurgy, spherical metallic powder, exploding wire, wire vaporization, metal vaporization

ABSTRACT: Use of a plasma arc to spray vaporized W, Ta, Nb, Ti and other high melting metals into contact with a water bath was studied in the search for a more effective method of producing fine spherical metal powders. Powders from 50-500 μ were produced, the bulk of the distribution falling between 150 and 300 μ. The authors attained production of 10-12 Kg/hr of tungsten powder with greater than 90% having spherical shape. Variations in rate and changes in particle temperature were analyzed to explain the mechanism by which the particles are rounded, and to establish the range of spacing between spray nozzle and receiver in which the particles are not deformed by impact with the surface of the liquid. A formula is

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ACCESSION NR: AP5013112

proposed for evaluating the effect of various parameters of the plasma spraying system on particle dimensions and for approximating particle size of the major fraction. Dispersion of the spray from the wire is the easiest experimental variable to control by changing the current in the arc and the diameter of the wire. Increased current and diminished wire diameter provide spherical powders with finer particle size. Orig. art. has: 7 figures, 4 formulas.

ASSOCIATION: none

SUBMITTED: 14Jun64 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 007 OTHER: 000

Card 2/2

S/135/61/000/005/001/011
A006/A101

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AUTHORS: Kulagin, I. D.; Petrunichev, V. A., Candidates of Technical Sciences, and Nikolayev, A. V., Engineer

TITLE: Investigating the cutting with arc plasma jet singled out from a cathode flame

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TEXT: A plasma jet is used for severing and surface-planing of different materials. The plasma jet is produced by discharge of an arc excited between tungsten electrode 1 and water cooled copper nozzle 2 (Fig. 1), (Ref. 1, 2). Gas is blown through the nozzle along the cathode flame which is ionized and leaves the nozzle in the form of a bright plasma jet attaining temperatures of 10,000 - 15,000°C and more. Of the two existing methods of plasma cutting, namely with the use of a plasma arc, singled out from or coinciding with the cathode flame, the authors selected the second method to investigate the heat characteristics and the cutting properties of the plasma arc. The information includes the designing of a plasma torch developed for the cutting of a number of materials. The efficiency of the cutting process depends considerably on the effective

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